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Soreq

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[54] HUMAN CHOLINESTERASE GENES

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Related U.S. Application Data

[63] Continuation of Ser. No. 87,724, Aug. 21, 1987, abandoned, which is a continuation-in-part of Ser. No. 875,737, Jun. 18, 1986, abandoned.

[51] **Int. Cl.**[5] **C12N 5/10**; C12N 1/12; C12N 1/15; C12N 15/12

[52] **U.S. Cl.** **435/240.2**; 435/172.3; 435/252.3; 435/254; 435/255; 435/320.1; 536/23.2

[58] **Field of Search** 435/320.1, 69.1, 252.3, 435/172.3, 240.2, 254, 255; 536/27

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[57] **ABSTRACT**

This invention is directed to genetically engineered proteins having human ChE activity, and more particularly, the activity of human AChE or human pseudo-ChE. The invention also provides for DNA sequences encoding such proteins, and more specifically DNA sequences comprising the entire coding region for encoding such complete proteins, and DNA expression vectors comprising such sequences. The invention also provides for DNA, which as been joined outside living cells, capable of infecting culturable cells, to be maintained therein and in progenies thereof which is adapted to encode such active proteins. The invention further provides culturable cells infected with recombinant DNA defined above, and to purified proteins having human ChE activity produced by such cells. There are further provided antibodies interacting with human AChE and pseudo-ChE and assays based on the use of such antibodies. The invention also provides compositions counteracting the effects of succinylcholine and of organophosphorus, containing as active ingredient an effective dosage of proteins defined above.

7 Claims, 10 Drawing Sheets